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PharmaSuite® SDK 9.2

PharmaSuite SDK 9.2.0.7

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Allen-Bradley • Rockwell Software

Rockwell Automation

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Content of the PharmaSuite SDK

- The SDK supports the
  - Implementation of extension use cases as described in the Technical Manuals for PharmaSuite
  - Development of Building Blocks (Phases and Parameter Classes)
- The SDK does not contain the source code or compilation of the product Phases. Please find the corresponding artifacts in different Phase packages provided on the Rockwell Automation download site.

PLEASE BE AWARE:

- ***This content is not fully tested or qualified.***
- ***Please make sure that ProductionCentre 10.4 MR6 (build 10.4. 107147) and PharmaSuite 9.2 (build 9.2.0.7) are installed.***

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Folder Structure of Reference Build Environment

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- **Libs**: 3rd party libraries
- **Buildfiles**: Ant built framework containing basic build scripts and additional build related tools
- **Dependencies**: PharmaSuite & FTPC libraries and other dependent artifacts
- **Installer**: Tailored version of the PharmaSuite Enterprise Edition installation scripts.

```
FTPS_SDK
    apps\
    buildfiles\
    commons\
    dependencies\
    dsx\
    installer\
    libs\
```

- **DSX**: DSX related configuration (disassembled) like forms, subroutines, AT definitions and AT rows
- **Apps, Commons**: Contain the project specific Eclipse projects and java packages

Note: Ant, Ant contrib & JDK are additional mandatory dependencies.

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Setting-Up JDK and Ant Environment

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- Define your system path or environment variables as required:
  - **`JAVA_HOME`** should point to a JDK 1.8.0_144 installation
  - **`ANT_HOME`** should point to an Apache Ant 1.10.0 installation
  - Your system **`PATH`** should be extended by the “bin” sub directory of both homes.
  - Please download Ant contrib 1.0b3 zip archive from:
    http://sourceforge.net/projects/ant-contrib/files/ant-contrib/1.0b3/ant-contrib-1.0b3-bin.zip/download
    and extract the included jar file
    `ant-contrib-1.0b3.jar`
    into directory
    `.\FTPS_SDK\buildfiles\tools\ant-contrib\`
- Example:
  - `JAVA_HOME=c:/Program Files (x86)/Java/jdk1.8.0_144`
  - `ANT_HOME=e:/dev/tools/Ant/apache-ant-1.10.0`
  - `PATH=%JAVA_HOME%\bin;%ANT_HOME%\bin;%PATH%;`

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Important Ant Targets (I/II)

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- On top level SDK structure:
  - **`ant -p`**
    Shows available Ant targets
  - **`ant clean`**
    Deletes build artifacts
  - **`ant create_workspace -Dworkspace=<path to workspacefolder>`**
    Creates a new Eclipse workspace in given path. Based on a template stored in folder `buildfiles\tools\eclipse\workspace-template\`
  - **`ant create_eclipse`**
    Creates Eclipse projects for import in workspace
  - **`ant all`**
    Executes complete build; including installer

Tip: Import created projects into workspace to start development in Eclipse.

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Important Ant Targets (II/II)

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- Execute **inside** DSX folder:
  - `ant -p` for a complete list of DSX handling specific targets
  - `ant assemble`
    Assembles the DSX files and creates the property file with the initial sequencer values.
  - `ant disassemble`
    Disassembles a DSX file provided by property DSX file.
    Hint: Important target to take over Process Designer DSX exports in DSX build directory structure.

Tip: ATRows are treated like any other DSX. Hence the obsolete "export_atrows" and "export_atrows_only" Ant targets are no longer available.

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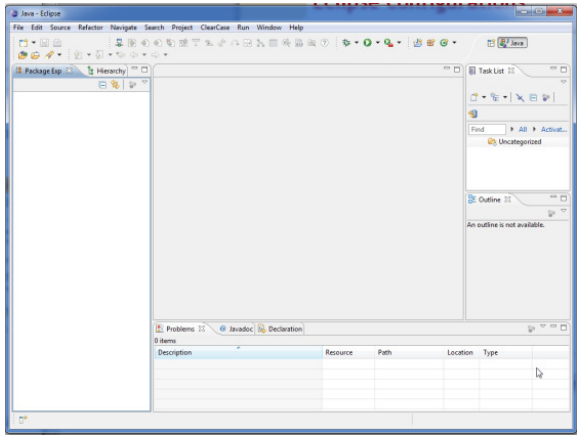
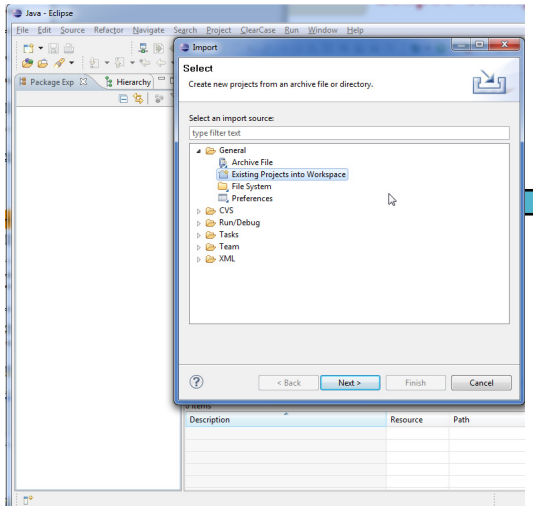
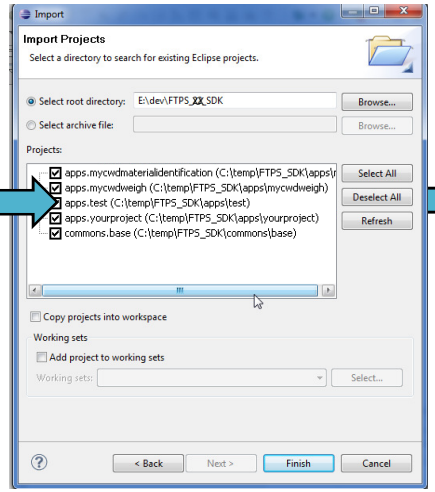
Eclipse Configurations

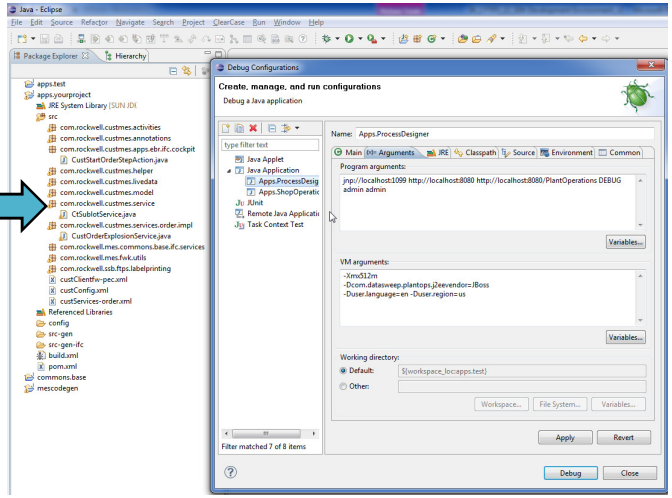
1. Open workspace created by
   `ant create_workspace`



2. Import projects created by
   `ant create_eclipse`







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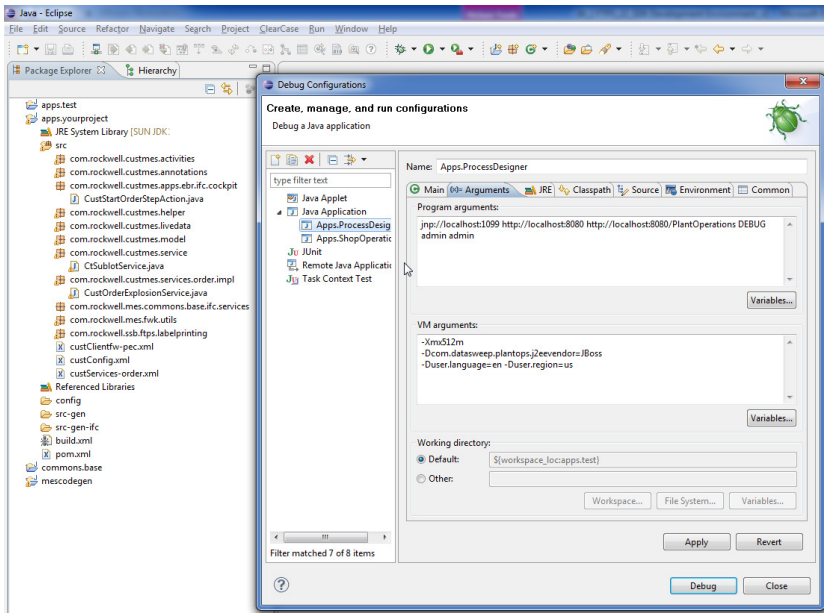
Eclipse Launch Configurations

- Change the program arguments in the provided launch configurations to reflect your environment‘s requirements.
- Important launch configurations:
  - Apps.ProcessDesigner
  - Apps.ShopOperations



Tip: Predefined configurations are provided.

`(.\FTPS_SDK\buildfiles\tools\eclipse\workspace-template\.metadata\.plugins\org.eclipse.debug.core\.launches\)`

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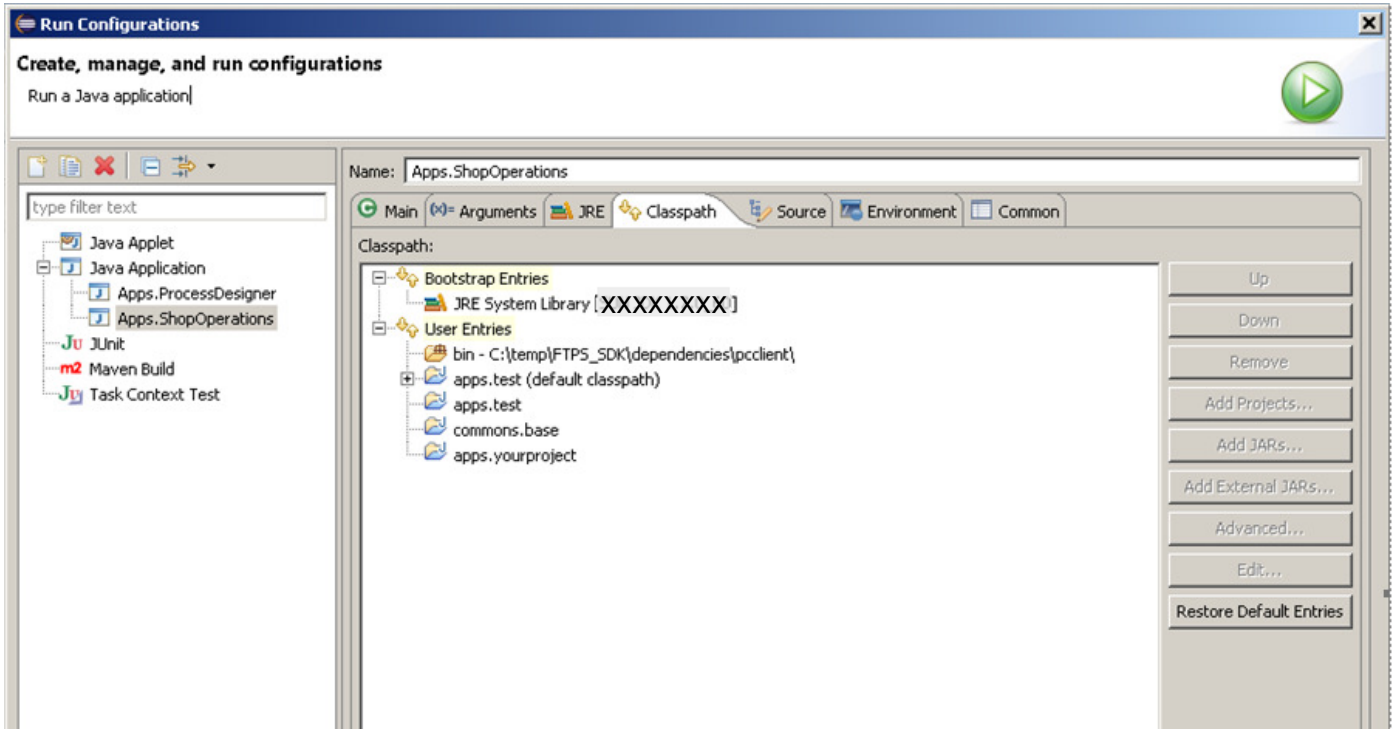
Eclipse Class Path Definition

- Ensure that your classpath is correctly defined:



Tip: Add your customization projects (here `apps.yourproject`) top most.

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Tips (I/II)

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1.) How to access "PharmaSuite-related Java Documentation“?

- Find documentation at:

  `http://<MES-PS-HOST>:8080/PharmaSuite/javadoc/`

  where `<MES-PS-HOST>` is the name of your PharmaSuite server.

2.) How to add the content of Phase packages to the SDK?

- Create a subfolder `FTPS_SDK\dependencies\<package name>`
- Copy all jar files from the `SDK\lib\` directory of the Phase package to `FTPS_SDK\dependencies\<package name>`

3.) Why do I get findbugs annotation compile warnings?

- PharmaSuite uses FindBugs to ensure source code quality. The application of FindBugs rules is controlled by annotations in the source code. You may ignore these compile warnings or add the FindBugs library to your classpath. Please use the FindBugs jar from
  http://sourceforge.net/projects/findbugs/files/findbugs/3.0.1/findbugs-3.0.1.zip

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Tips (II/II)

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4.) How to add new Java libraries?

- All JAR files in all subdirectories of `FTPS_SDK\dependencies\` are added to the Java classpath.
  During the build (`ant build_all` or `ant create_eclipse`) of the SDK a `pathing.jar` file is created in the directory `FTPS_SDK\dependencies\`.
  The Manifest file of `pathing.jar` contains entries to all jar files located in any subdirectory of the dependencies folder. To compile the SDK and assemble it, it is only necessary to have this `pathing.jar` in the classpath.

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Closing Slide

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